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A4  
12. (Amended) A method for demodulating, in a receiver, a data signal transmitted from a digital source at a network sampling rate that is synchronized with a network clock, comprising the steps of:

sampling the data signal to produce digital samples at a first local sample rate that is synchronized with a local clock;

interpolating the digital samples to produce first and second estimates for each of the digital samples using a polyphase interpolator;

interpolating the first and second estimates to produce interpolated digital samples having a second local sample rate that is synchronized with the network clock using a linear interpolator;

equalizing the interpolated digital samples to produce equalized digital samples; and decoding the equalized digital samples to generate detected symbols therefrom.

Please cancel Claim 15 without prejudice or disclaimer.

Please enter amended Claim 20 as follows:

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A5  
20. (Amended) A computer program product for demodulating, in a receiver, a data signal transmitted from a digital source at a network sampling rate that is synchronized with a network clock, comprising:

a computer readable storage medium having computer readable code means embodied therein, the computer readable code means comprising:

logic configured to sample the data signal to produce digital samples at a first local sample rate that is synchronized with a local clock;

first logic configured to interpolate the digital samples to produce first and second estimates for each of the digital samples, the first logic configured to interpolate comprising:

logic configured to use a polyphase interpolator to produce the first and second estimates;

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Cont.

~~second logic configured to interpolate the first and second estimates to produce interpolated digital samples having a second local sample rate that is synchronized with the network clock, the second logic configured to interpolate comprising:~~

- ~~logic configured to use a linear interpolator to produce the interpolated digital samples;~~
- ~~logic configured to equalize the interpolated digital samples to produce equalized digital samples; and~~
- ~~logic configured to decode the equalized digital samples to generate detected symbols therefrom.~~

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Please cancel Claim 23 without prejudice or disclaimer.

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Please enter new Claims 28 - 30 as follows:

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28. (New) A receiver for demodulating a data signal transmitted from a digital source at a network sampling rate that is synchronized with a network clock, comprising:

- a two-stage interpolator, responsive to digital samples of the data signal, that generates interpolated digital samples in response thereto, the digital samples having a first local sample rate that is synchronized with a local clock and the interpolated digital samples having a second local sample rate that is synchronized with the network clock;
- an adaptive fractionally spaced decision feedback equalizer, responsive to the interpolated digital samples, that generates equalized digital samples at the network sampling rate in synchronization with the network clock;
- a slicer, responsive to the equalized digital samples, that generates detected symbols therefrom corresponding to data from the data signal; and
- means for identifying a signaling alphabet used by the slicer to generate the detected symbols, comprising:
  - means for establishing a plurality of alphabet thresholds corresponding to valid data symbols;
  - means for computing an average value for the equalized digital samples corresponding to a particular alphabet threshold; and
  - means for updating the particular alphabet threshold with the average value.

29. (New) A method for demodulating, in a receiver, a data signal transmitted from a digital source at a network sampling rate that is synchronized with a network clock, comprising the steps of:

sampling the data signal to produce digital samples at a first local sample rate that is synchronized with a local clock;

interpolating the digital samples to produce first and second estimates for each of the digital samples;

interpolating the first and second estimates to produce interpolated digital samples having a second local sample rate that is synchronized with the network clock;

equalizing the interpolated digital samples to produce equalized digital samples;

decoding the equalized digital samples to generate detected symbols therefrom; and

identifying a signaling alphabet for use in the decoding step to generate the detected symbols, the identifying step comprising the steps of:

establishing a plurality of alphabet thresholds corresponding to valid data symbols;

computing an average value for the equalized digital samples corresponding to a particular alphabet threshold; and

updating the particular alphabet threshold with the average value.

30. (New) A computer program product for demodulating, in a receiver, a data signal transmitted from a digital source at a network sampling rate that is synchronized with a network clock, comprising:

a computer readable storage medium having computer readable code means embodied therein, the computer readable code means comprising:

logic configured to sample the data signal to produce digital samples at a first local sample rate that is synchronized with a local clock;

first logic configured to interpolate the digital samples to produce first and second estimates for each of the digital samples;

second logic configured to interpolate the first and second estimates to produce interpolated digital samples having a second local sample rate that is synchronized with the network clock;

logic configured to equalize the interpolated digital samples to produce equalized digital samples;

logic configured to decode the equalized digital samples to generate detected symbols therefrom;

logic configured to identify a signaling alphabet, the logic configured to decode being responsive to the logic configured to identify, the logic configured to identify comprising:

logic configured to establish a plurality of alphabet thresholds corresponding to valid data symbols;

logic configured to compute an average value for the equalized digital samples corresponding to a particular alphabet threshold; and

logic configured to update the particular alphabet threshold with the average value.

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cont.